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AN INVESTIGATION OF THE ORDER OF PRESENTATION OF FOREIGN LANGUAGE GRAMMAR DRILLS IN RELATION TO THEIR EXPLANATION. FINAL REPORT.

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IN ORDER TO DISCOVER IF PUPILS COULD ARRIVE AT THEIR OWN RULES OR GENERALIZATIONS FROM DRILL (THUS SUGGESTING THAT TIME BE SPENT MORE PROFITABLY IN ADDITIONAL PRACTICE THAN IN EXPLANATION), FOUR DIFFERENT METHODS WERE TESTED. FOUR FRENCH AND FOUR SPANISH HIGH SCHOOL CLASSES WERE SUBJECTED TO EXPLANATIONS (1) BEFORE THE DRILL, (2) AFTER THE INITIAL INTRODUCTION OF THE MATERIAL, (3) AFTER THE DRILL, OR (4) WITHHELD IN FAVOR OF ADDITIONAL DRILL. DRILLS WERE TAPERECORDED AND WRITTEN TESTS WERE ADMINISTERED AFTERWARDS AS CRITERION MEASURES. APTITUDE MEASURES WERE USED AS COVARIATES IN ORDER TO ESTABLISH RELATION OF APTITUDE WITH TREATMENTS, AND TO ADJUST CRITERION MEASURES FOR APTITUDE DIFFERENCES BY ANALYSIS OF COVARIANCE. RESULTS INDICATED THAT DIFFERENCES BETWEEN CLASSES WERE GENERALLY MORE IMPORTANT THAN TREATMENT DIFFERENCES. AFTER ADJUSTMENT FOR APTITUDE WAS MADE, SIGNIFICANT DIFFERENCES BETWEEN TREATMENTS REMAINED IN ONLY ONE SPANISH AND ONE FRENCH EXPERIMENT. IN THESE TWO EXPERIMENTS, EXPLANATION WAS GIVEN BEFORE THE DRILL OR AFTER THE INITIAL INTRODUCTION OF MATERIAL. THUS THERE IS SOME EVIDENCE THAT EARLY INTRODUCTION OF THE EXPLANATION IS A MORE ADVISABLE TREATMENT THAN ITS POSTPONEMENT. THIS REPORT INCLUDES A DETAILED DISCUSSION OF THE FOUR TREATMENTS, SIGNIFICANT DATA, AND TRANSCRIPTIONS OF THE DRILLS. (AF)

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An Investigation of the Order of Presentation of Foreign Language Grammar Drills in Relation to Their Explanation

Project No. ~~5-1096~~ 5-1103

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Robert L. Politzer

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Stanford University

Stanford, California

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September 1967

Abstract

The hypothesis to be tested in this experiment was whether in the initial learning of Foreign language patterns, the placement of the explanation (A) before the drill, (B) after the initial introduction of the material, (C) after the drill, or the withholding of explanation in favor of additional drill (D) is a significant independent treatment variable. The hypothesis was tested with 6 French drills and 6 Spanish drills. The drills were administered to 4 French and 4 Spanish classes of the same High School. Drills were recorded on tape in such a way that the differences in the use of the explanation constituted the only differences between the 4 treatments (A, B, C, D). Treatments were rotated among the classes taking part in the test. Written tests (translations; transformations) administered after the treatments constituted the criterion measures and dependent variable of the experiment. Aptitude measures (MLAT-Carroll-Sapon) were used as covariates in order to establish relation of aptitude with treatments and in order to adjust criterion measures for aptitude differences by analysis of covariance.

The results indicated that generally differences between classes seemed more important than treatments. Significance levels (0.05) between treatments remained only in 1 Spanish and 1 French experiment after adjustment for aptitude was made. Treatments A and B ranked first in those 2 experiments. For the total of the 12 experiments treatments A and B ranked first in 9 out of 12 times. Thus the experiment furnished some evidence that the early introduction of the explanation seems a more advisable treatment than its postponement.

1. Introduction

The experiment reported herewith dealt principally with one much debated question[1]: In the presentation of a foreign language pattern drill, (A) should the explanation precede the drill, (B) should it be given after some material has been introduced, (C) should it be given at the end of the drill as a so-called generalization or (D) should it be given at all. In other words, is it possible for the pupil to arrive at his own rule or generalization and may the time spent in explaining be used more profitably to provide opportunity for additional practice.

As was pointed out in a recent article by Richard Barrutia[2], a reasonably good case can be made for each of the four treatments described above. The argument for putting the explanation before the very beginning of the drill is summarized by Barrutia as follows (p. 159):

" 'If we wait,' say those teachers who favor giving the rule first 'until the end of a drill to explain what has been happening, we will have lost the benefit of a focal point while the drill was in progress. The student has no particular structure in mind to concentrate on while he practices. Success is extremely important and the student is immediately successful when he has been given the grammatical element involved, because he can then fix his attention on it, confirm the rule and be satisfied that he has learned it.' "

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[1] John B. Carroll, "Research in Teaching Foreign Languages" in N. Gage, editor, Handbook of Research in Teaching, Chicago, 1963, p. 1074 poses essentially the questions with which this project is concerned: "what is the proper order and distribution of time between 1) presentation of grammatical material from which the learner can himself develop principles inductively, and 2) grammatical explanations provided by the instructors?"

[2] Richard Barrutia, "Some Pedagogical Dangers in Recent Linguistic Trends," IRAL IV (1966), pp. 157-164.

The argument against giving the rule first, is based primarily on the usual set of arguments that can be put forth for inductive learning and discovery learning. "It has for some time been a well-seated tenet of the psychology of learning that a student more readily learns and more persistently retains what he has discovered for himself. If we accept this principle--and we have no reason not to--we must also apply it to the discovery of language structure by the student." (Barrutia, p. 159).

Yet another set of arguments against having the rule precede the language drill deals not so much with the advantage of discovery learning but is rather based on the contention that knowledge of the rule is at best irrelevant and at worst damaging to the pupil's fluency in the foreign language. The point that knowledge of the rules of grammar has little to do with performance in language needs no demonstration: We can speak our native language without knowing the structural rules governing them. The point that preoccupation with grammar and structure can, in fact, interfere with performance has been made by various writers.[3]

The approach used typically in the textbooks following the audio-lingual method, reflects the mistrust of the rule, at least of the rule as starting point of instruction. Thus the widely used Audio-lingual Materials[4] provide grammatical rules as a so-called "generalizations"

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[3]Robert L. Politzer, Teaching French, New York, 1965, p. 24.

[4]ALM, Audio-lingual Materials, French: Level One, Harcourt, Brace and World, Inc., New York, 1961.

at the end of the lesson, after the various pattern drills have been performed by the student. The theory behind the procedure is that discovery learning is better than prescriptive teaching, that language behavior is understood and learned by "analogy" rather than "analysis."[5]

In the above mentioned article, Barrutia suggests a compromise between the "explanation first" and "explanation last" strategies. While he generally doubts the efficiency of formulating rules for the student, he does concede that the discovery procedure may be too difficult for a student who is an underachiever and who is of low language aptitude. He feels that such a student may be "completely uncapable of formulating the appropriate rule after a complex structural drill." Therefore, he concludes, it may be "prudent to abandon the extreme position that no grammatical explanation is ever necessary or even that it should be postponed till after the drill" (Barrutia, 66, p. 103). Yet at the same time is unwilling to forego the advantage of discovery learning. He suggests, therefore, that the explanation be given after the material has been introduced. By this procedure, those who are capable of discovery learning will gain the advantage which comes from "finding out by oneself," while the others will not be put at a permanent disadvantage. All students will profit from a succint and precise explanation given by the teacher: those who have found the explanation by themselves will be rewarded by the confirmation coming from the teacher, those who did not understand the principle underlying the

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[5] For a discussion of "Analogy vs. Analysis" see Wilga Rivers, The Psychologist and the Foreign Language Teacher, Chicago, 1964, Chapter XI.

drill will be helped by the explanation. Both--the fast and slow learner--will profit equally from the drill which follows the explanation--and which is still necessary in order to bring about "internalization" of the structure which is being studied.

That the "explanation first" vs. "explanation last" argument can lead to a still different conclusion has been intimated in the discussion above. If the explanation can be found by the student through discovery learning, can get in the way of fluent performance and is not really necessary for performance in the language, then we might legitimately ask whether we should give any explanations at all. If language learning is primarily a matter of acquiring automatic habits, then it may be by far more profitable to devote the time taken up by explanations to additional practice.

2. Method

Six Spanish and 6 French pattern drills were constructed. Each drill dealt with a specific grammatical problem and each drill lasted approximately 20-30 minutes. The drills were recorded by native speakers of Spanish and French. Grammatical explanations for each of the drills were also constructed, recorded and added to 3 of the drills, in such a way that the tapes constituted four different treatments.

Treatment A: The explanation was added so that it preceded the drill.

Treatment B: The explanation was spliced into the tape so that it followed immediately after the initial phase (Repetition phase) of the drill.

Treatment C: The explanation was added at the end of the tape.

Treatment D: No explanation was added to the tape, but in treatments A, B, and C a number of Stimulus > Response items were omitted in each phase of the drill. The time taken by the omitted items equalled the time required by the explanation. In other words, the time taken by treatments A, B, C, D was exactly the same.

For each of the drills post-tests were constructed. Typically, the post-test consisted of 8 English sentences and the subjects taking part in the test were to write the Spanish (French) equivalent of the English sentence structures. Ten minutes time was uniformly allowed for the tests.

The subjects used for the experiment were the pupils of 4 First Year French and 4 First Year Spanish classes--all in the same Senior High School in a suburban type community in the San Francisco Bay Area. The drills were chosen so that they (1) could be administered at different times of the school year and (2) represented new material at the time of their administration. Since all the 8 classes taking part in the experiment were using the so-called ALM materials in their courses and followed the same schedule prescribed by the school, it was possible to coordinate the drills and the time of presentation with the school schedule. In a few cases in which it was necessary to use in the drills some vocabulary items that had not been used previously in the ALM materials, these items were given to the students (written on the blackboard) before the drill was administered and the students were allowed five minutes to familiarize themselves with those items.

The following is a list of the topics of Spanish drills (SD) and French drills (FD) which were used in the experiment, and of the ALM units which were presupposed by each of the drills.

Spanish Drills

Spanish Drill 1:

SD 1:	gustar (Present Tense, Indirect Object pronouns me, te)	ALM units 1-2
SD 2:	faltar (Present Tense, Indirect Object pronouns me, te)	ALM units 1-3
SD 3:	Demonstrative Adjectives (este, ese, aquel)	ALM units 1-5
SD 4:	Direct Object Pronouns	ALM units 1-8
SD 5:	Reflexive Verbs	ALM units 1-9
SD 6:	Saber vs. conocer	ALM units 1-9

French Drills

French Drill 1:

FD 1:	Demonstrative Adjectives (ce, cet, cette, ces)	ALM units 1-3
FD 2:	Use of plaire (Indirect Object Pronouns)	ALM units 1-4
FD 3:	Reflexive Verbs (affirmative, negative)	ALM units 1-5
FD 4:	Interrogative Pronouns (qu'est-ce que, qui est-ce que)	ALM units 1-5
FD 5:	Direct Object Pronouns (le, la, les, l')	ALM units 1-6
FD 6:	The Relative Pronouns (qui, que)	ALM units 1-11

The first of the Spanish and French drills (SD 1, FD 1) are reproduced herewith (with their criterion tests) in order to familiarize the reader with the materials used in the experiments (copies of all the drills can be made available by the principal investigator upon request). The asterisk (*) indicates materials used in treatment D alone.

SD 1

Explanation (Treatment A)

The verb expressing "to like" is translated by the verb "gustar" in Spanish. "Me gusta" literally means "it is pleasing to me;" we would say "I like it" in good English. "Te gusta" = "You like it" literally means "it is pleasing to you."

Note that the subject is the person or thing which is pleasing. The object pronouns must come before the verb "gustar." Thus the order is:

OBJECT PRONOUN GUSTAR NOUN

The verb must agree in number with the noun!

Here are some examples:

Me gusta	'I like it' literally, 'it is pleasing to me.'
Me gustan	'I like them' literally, 'they are pleasing to me.'
Me gusta el señor	'I like the gentleman'
Me gustan los libros	'I like the books'
Te gusta la novela	'You like the novel'
Te gustan las novelas	'You like the novels'
Me gustan la leche y el pan	'I like milk and bread'

Drills:

On this tape you will learn to express "to like" in Spanish with the verb "gustar."

LISTEN AND REPEAT THE SPANISH:

I like the book	Me gusta el libro	PAUSE
	Me gusta el libro	PAUSE
I like the newspaper	Me gusta el periódico	PAUSE
	Me gusta el periódico	PAUSE
I like the notebook	Me gusta el cuaderno	PAUSE
	Me gusta el cuaderno	PAUSE
I like that table	Me gusta aquella mesa	PAUSE
	Me gusta aquella mesa	PAUSE
I like it	Me gusta	PAUSE
	Me gusta	PAUSE
I like the girl	Me gusta la chica	PAUSE
	Me gusta la chica	PAUSE
I like the brunette	Me gusta la morena	PAUSE
	Me gusta la morena	PAUSE
I like the class	Me gusta la clase	PAUSE
	Me gusta la clase	PAUSE

LISTEN AND REPEAT THE SPANISH:

I like the books	Me gustan los libros	PAUSE
	Me gustan los libros	PAUSE
I like the newspapers	Me gustan los periódicos	PAUSE
	Me gustan los periódicos	PAUSE
I like the notebooks	Me gustan los cuadernos	PAUSE
	Me gustan los cuadernos	PAUSE
I like them	Me gustan	PAUSE
	Me gustan	PAUSE
I like the girls	Me gustan las chicas	PAUSE
	Me gustan las chicas	PAUSE
I like the brunettes	Me gustan las morenas	PAUSE
	Me gustan las morenas	PAUSE
I like the classes	Me gustan las clases	PAUSE
	Me gustan las clases	PAUSE

[Explanation inserted for treatment B]

SUBSTITUTION:

MODELO:

Me gusta la chica

el chico	Me gusta el chico	PAUSE
	Me gusta el chico	PAUSE
los chicos	Me gustan los chicos	PAUSE
	Me gustan los chicos	PAUSE
las clases	Me gustan las clases	PAUSE
	Me gustan las clases	PAUSE
el cuaderno	Me gusta el cuaderno	PAUSE
	Me gusta el cuaderno	PAUSE
las novelas	Me gustan las novelas	PAUSE
	Me gustan las novelas	PAUSE
aquella mesa	Me gusta aquella mesa	PAUSE
	Me gusta aquella mesa	PAUSE
los chicos	Me gustan los chicos	PAUSE
	Me gustan los chicos	PAUSE
el español	Me gusta el español	PAUSE
	Me gusta el español	PAUSE

*el libro	Me gusta el libro	PAUSE
	Me gusta el libro	PAUSE
*los libros	Me gustan los libros	PAUSE
	Me gustan los libros	PAUSE

LISTEN AND REPEAT THE SPANISH:

You like the teacher	Te gusta el profesor	PAUSE
	Te gusta el profesor	PAUSE
You like the class	Te gusta la clase	PAUSE
	Te gusta la clase	PAUSE
You like the notebook	Te gusta el cuaderno	PAUSE
	Te gusta el cuaderno	PAUSE
You like the table	Te gusta la mesa	PAUSE
	Te gusta la mesa	PAUSE
You like the novel	Te gusta la novela	PAUSE
	Te gusta la novela	PAUSE
You like the book	Te gusta el libro	PAUSE
	Te gusta el libro	PAUSE

CHANGE FROM THE SINGULAR TO THE PLURAL:

MODELO:

Te gusta el libro	Te gustan los libres	PAUSE
Te gusta la profesora	Te gustan las profesoras	PAUSE
Te gusta el cuaderno	Te gustan los cuadernos	PAUSE
Te gusta la clase	Te gustan las clases	PAUSE
Te gusta la novela	Te gustan las novelas	PAUSE
Te gusta el libro	Te gustan los libros	PAUSE
Te gusta la mesa	Te gustan las mesas	PAUSE
Te gusta	Te gustan	PAUSE
Te gusta el chico	Te gustan los chicos	PAUSE
*Te gusta la chica	Te gustan las chicas	PAUSE
*Te gusta la morena	Te gustan las morenas	PAUSE

QUESTION AND ANSWERS: ANSWER THE QUESTIONS NEGATIVELY

MODELO:

Te gusta la clase de español?	No me gusta la clase de español.	PAUSE
Te gusta el fútbol?	No me gusta el fútbol.	PAUSE
Te gusta el tenis?	No me gusta el tenis.	PAUSE
Te gusta el golf?	No me gusta el golf.	PAUSE
Te gusta el béisbol?	No me gusta el béisbol.	PAUSE
Te gusta estudiar?	No me gusta estudiar.	PAUSE
Te gusta hablar?	No me gusta hablar.	PAUSE

REPLACEMENT:

Te gusta la chica	Te gusta la chica	PAUSE
__ _____ las novelas	Te gustan las novelas	PAUSE
__ _____ el libro	Te gusta el libro	PAUSE
Me _____ __ _____	Me gusta el libro	PAUSE
__ gustan __ _____	Me gustan los libros	PAUSE
Te _____ ___ _____	Te gustan los libros	PAUSE
__ _____ la clase	Te gusta la clase	PAUSE
__ _____ las clases	Te gustan las clases	PAUSE
Me _____ ___ _____	Me gustan las clases	PAUSE
__ gusta __ _____	Me gusta la clase	PAUSE
__ _____ los profesores	Me gustan los profesores	PAUSE
__ _____ la profesora	Me gusta la profesora	PAUSE
Te _____ __ _____	*Te gusta la profesora	PAUSE
__ gustan ___ _____	*Te gustan las profesoras	PAUSE

TRANSLATION: TRANSLATE THE ENGLISH INTO SPANISH:

You like the notebook	Te gusta el cuaderno	PAUSE
I like the book	Me gusta el libro	PAUSE
I like the books	Me gustan los libros	PAUSE
You like the classes	Te gustan las clases	PAUSE
I like it	Me gusta	PAUSE
You like the newspaper	Te gusta el periódico	PAUSE
You like the table	Te gusta la mesa	PAUSE
I like them	Me gustan	PAUSE
You like it	Te gusta	PAUSE

[Explanation added in treatment C]

POST-TEST: TRANSLATE THE FOLLOWING SENTENCES INTO SPANISH:

I like Mary	Me gusta Maria
You like Spanish	Te gusta el español
You like the books	Te gustan los libros
I like the girls	Me gustan las chicas
You like to talk	Te gusta hablar
I like the classes	Me gustan las clases
I like three	Me gustan (las) tres
You like it	Te gusta

In drill FD_1 (just like some other French drills) the students were given some mimeographed material. The material handed the student for the drill consisted of the following:

Voilà	ce	cahier.	Voilà	ces	cahiers.
Voilà	cet	arbre.	Voilà	ces	arbres.
Voilà	cette	table.	Voilà	ces	tables.
Voilà	cette	auto.	Voilà	ces	autos.

Explanation (Treatment A)

Look at the list of demonstrative adjectives in front of you. The demonstrative adjectives in French may mean either this or that in the singular, and these or those in the plural. French does not distinguish between this and that, or between these and those, unless it is necessary.

The masculine singular form of the demonstrative adjective is ce if the next word begins with a consonant sound, as in ce livre, ce cahier, ce journal. If, however, the next word begins with a vowel sound, then the form [set], spelled c-e-t, is used, as in cet homme and cet arbre. The feminine singular form is [set], spelled c-e-t-t-e, whether the following word begins with a consonant or vowel, as in cette montre, and cette orange.

The plural form, spelled c-e-s, is pronounced [se] for both masculine and feminine words if they begin with a consonant, as in ces livres, ces cahiers, ces montres, ces jeunes filles. But if the next word begins with a vowel, then the demonstrative adjective is pronounced [sez], as in ces arbres, ces hommes, ces autos, ces oranges.

REPETITION DRILL: Repeat only the French sentences:

I like this book and this watch.

J'aime ce livre et cette montre.

Repeat.

I like that book and that watch.

J'aime ce livre et cette montre.

Repeat.

Do you like these books and these watches?

Tu aimes ces livres et ces montres?

Repeat.

Do you like those books and those watches?

Tu aimes ces livres et ces montres?

Repeat.

I don't like this tree and this car.

Je n'aime pas cet arbre et cette auto.

Repeat.

I don't like that tree and that car.

Je n'aime pas cet arbre et cette auto.

Repeat.

I don't like these trees and these cars.

Je n'aime pas ces arbres et ces autos.

Repeat.

I don't like those trees and those cars.

Je n'aime pas ces arbres et ces autos.

Repeat.

REPETITION DRILL: REPEAT THE FOLLOWING SENTENCES:

Voilà ce livre; voilà ces livres.

Repeat.

Voilà ce cahier; voilà ces cahiers.

Repeat.

J'aime cette montre; j'aime ces montres.

Repeat.

J'aime cette jeune fille; j'aime ces jeunes filles.

Repeat.

Tu aimes cet homme?; tu aimes ces hommes?

Repeat.

Tu aimes cet arbres?; tu aimes ces arbres?

Repeat.

Tu n'aimes pas cette orange?; tu n'aimes pas ces oranges?

Repeat.

Tu n'aimes pas cette auto?; tu n'aimes pas ces autos?

Repeat.

[Explanation inserted for treatment B]

SUBSTITUTION DRILLS: Repeat the basic sentence which begins each drill and supply the correct demonstrative adjective in each of your sentences.

Drill One:	Drill Two:
J'aime ce livre. Repeat.	Je n'aime pas cette table. Repeat.
dessert Repeat.	classe Repeat.
J'aime ce dessert. Repeat.	Je n'aime pas cette classe. Repeat.
livre Repeat.	montre Repeat.
J'aime ce livre. Repeat.	Je n'aime pas cette montre. Repeat.
cahier Repeat.	sancisse Repeat.
J'aime ce cahier. Repeat.	Je n'aime pas cette saucisse.
roman Repeat.	jeune fille Repeat.
J'aime ce roman. Repeat.	Je n'aime pas cette jeune fille. Repeat.
pain* Repeat.	*glace Repeat.
J'aime ce pain*. Repeat.	*Je n'aime pas cette glace. Repeat.

Drill Three:

Donne-moi ces livres. Repeat.

cahiers Repeat.

Donne-moi ces cahiers. Repeat.

romans Repeat.

Donne-moi ces romans. Repeat.

montres Repeat.

Donne-moi ces montres. Repeat.

saucisses Repeat.

Donne-moi ces saucisses. Repeat.

desserts* Repeat.

Donne-moi ces desserts.* Repeat.

Drill Four:

Tu aimes cet arbre? Repeat.

homme Repeat.

Tu aimes cet homme? Repeat.

auto Repeat.

Tu aimes cette auto? Repeat.

orange Repeat.

Tu aimes cette orange?

*homme Repeat.

*Tu aimes cet homme ? Repeat.

Drill Five:

Tu n'aimes pas ces arbres? Repeat.

hommes Repeat.

Tu n'aimes pas ces hommes? Repeat.

autos Repeat.

Tu n'aimes pas ces autos? Repeat.

oranges Repeat.

Tu n'aimes pas ces oranges? Repeat

*arbres Repeat.

*Tu n'aimes pas ces arbres? Repeat

Drill Six:

Ce livre est près de la fenêtre. Repeat.

cahier Repeat.

Ce cahier est près de la fenêtre. Repeat.

montre Repeat.

Cette montre est près de la fenêtre. Repeat.

arbre Repeat.

Cet arbre est près de la fenêtre. Repeat.

roman Repeat.

Ce roman est près de la fenêtre. Repeat.

table Repeat.

Cette table est près de la fenêtre.
Repeat.

homme Repeat.

Cet homme est près de la fenêtre.
Repeat.

*auto Repeat.

*Cette auto est près de la fenêtre.
Repeat.

Drill Seven:

Ces hommes sont près de la fenêtre.
Repeat.

jeunes filles Repeat.

Ces jeunes filles sont près de la
fenêtre.
Repeat.

romans Repeat.

Ces romans sont près de la fenêtre.
Repeat.

arbres Repeat.

Ces arbres sont près de la fenêtre.
Repeat.

cahiers Repeat.

Ces cahiers sont près de la fenêtre
Repeat.

oranges Repeat.

Ces oranges sont près de la fenêtre
Repeat.

tables Repeat.

Ces tables sont près de la fenêtre.
Repeat.

*montres Repeat

*Ces montres sont près de la fenêtre
Repeat

Drill Eight: progressive
substitution exercise

Ce livre est près de la fenêtre
Repeat

homme Repeat.

Cet homme est près de la fenêtre.
Repeat

sont Repeat.

Ces hommes sont près de la fenêtre.
Repeat

près de la table Repeat.

Ces hommes sont près de la table.
Repeat

jeunesfilles Repeat.

Ces jeunes filles sont près de la
table
Repeat

est Repeat.

Cette jeune fille est près de la
table
Repeat

près de la fenêtre Repeat.

Cette jeune fille est près de la
fenêtre.
Repeat

livre Repeat.

Ce livre est près de la fenêtre.
Repeat

*sont Repeat.

*Ces livres sont près de la fenêtre
Repeat

TRANSFORMATION DRILL: Put each noun into the plural according to this model: Voilà ce livre. Voilà ces livres.

Voilà ce roman. Repeat.	Voilà ces romans. Repeat.
Voilà cette table. Repeat.	Voilà ces tables. Repeat.
Voilà cet homme. Repeat.	Voilà ces hommes. Repeat.
Voilà ce cahier. Repeat.	Voilà ces cahiers. Repeat.
Voilà cette jeune fille. Repeat.	Voilà ces jeunes filles. Repeat.
Voilà cette oranges. Repeat.	Voilà ces oranges. Repeat.
Voilà ce livre. Repeat.	Voilà ces livres. Repeat.
*Voilà cet arbre. Repeat.	*Voilà ces arbres. Repeat.

TRANSFORMATION DRILL: Put each noun into the singular according to this model: J'aime mieux ces autos. J'aime mieux cette auto.

J'aime mieux ces cahiers. Repeat.	J'aime mieux ce cahier. Repeat.
J'aime mieux ces saucisses. Repeat	J'aime mieux cette saucisse. Repeat.
J'aime mieux ces oranges. Repeat.	J'aime mieux cette orange. Repeat.
J'aime mieux ces tables. Repeat.	J'aime mieux cette table. Repeat.
J'aime mieux ces romans. Repeat.	J'aime mieux ce roman. Repeat.
J'aime mieux ces autos. Repeat.	J'aime mieux cette auto. Repeat.
*J'aime mieux ces desserts. Repeat	*J'aime mieux ce dessert. Repeat.

TRANSLATION DRILL: Translate each sentence into French.

Give me this book. Repeat	Donne-moi ce livre. Repeat.
Give me that watch. Repeat	Donne-moi cette montre. Repeat.
Give me these oranges. Repeat	Donne-moi ces oranges. Repeat.
I like these oranges. Repeat	J'aime ces oranges. Repeat.
I like that car. Repeat.	J'aime cette auto. Repeat.

I don't like this car. Repeat Je n'aime pas cette auto. Repeat.

I don't like these men. Repeat Je n'aime pas ces hommes. Repeat.

*I like those men. Repeat. *J'aime ces hommes. Repeat.

[Explanation added in treatment C]

Post-Test: Translate the following four sentences into French.

1. I like this book. (J'aime ce livre)

2. I don't like these cars. (Je n'aime pas ces autos)

3. These men are near the table. (Ces hommes sont près de la table)

4. I like that window better. (J'aime mieux cette fenêtre)

Put each noun into the singular:

1. Voilà ces cahiers. (Voilà ce cahier)

2. Voilà ces hommes. (Voilà cet homme)

3. Tu n'aimes pas ces saucisses? (Tu n'aimes pas cette saucisse ?)

4. Tu veux ces oranges? (Tu veux cette orange?)

The drills and tests were administered to each group of classes (4 Spanish, 4 French) on the same day. The 4 Spanish classes (SC 1, SC 2, SC 3, SC 4) met during the first, fourth, fifth and sixth class periods. The four French classes (FC 1, FC 2, FC 3, FC 4) met during the first, fifth, sixth, and seventh class periods. During each administration of the drills one of the classes was chosen for one treatment and treatments were rotated among classes in the way described below.

Drill	Class			
	SC 1	SC 2	SC 3	SC 4
SD 1	A	B	C	D
SD 2	B	A	D	C
SD 3	C	D	A	B
SD 4	D	C	B	A
SD 5	A	B	C	D
SD 6	B	A	D	C
	FC 1	FC 2	FC 3	FC 4
FD 1	D	A	B	C
FD 2	C	D	A	B
FD 3	A	D	C	B
FD 4	B	C	D	A
FD 5	D	A	B	C
FD 6	B	C	A	D

After the administration of each drill, the post-test designed for the drill was administered. The post-tests of all the French treatments consisted either of eight English sentences to be translated into French or of four English sentences and four Transformation items. The tests were scored in the following basis: a maximum score of 16 (8 x 2) was assigned to the test and one point was deducted for each mistake made by the pupil. All tests were scored by the same individual. The reliability of his scoring was checked by having another scorer rescore the test for experiments FD 2 and FD 3. The scores obtained by the rescoring agreed with those assigned by the first scores by a correlation of .89 (FD 2) and .84 (FD 3). The scorer for the Spanish experiments (in which the number of sentences in the post-test varied from 8 to 10) used a different method of scoring. He assigned a number of points to each of the "critical grammatical" problems tested in the post-test. For example in experiment SD 1 the distribution of points was undertaken

on the following basis: For each sentence a total maximum score of 3 was allowed: 1 point for correct word order, 1 point for the correct pronoun and 1 point for the correct verb ending. Since the test contained 8 sentences a score of 24 points was considered a perfect (100%) score. Lesson scores were then reported as percentages of the possible (100%). Again the reliability of the scoring was checked by another scorer rescoring two experiments. Agreement between the two scores was .93 (SD 2) and .90 (SD 4). One of the Spanish tests (SD 4) which contained 8 sentences was also scored on the same basis as the French experiment. Obviously the scores themselves were quite different from those obtained by the % method but the rank-orders correlated 0.87.

In addition to the post-tests after each drill, all the subjects taking part in the experiment were given the Modern Language Aptitude tests (MLAT Carroll-Sapon) so that effects of aptitude on the results and correlations of aptitude with the treatments could be determined.

Results and Discussion

A. Spanish Experiment

The following table summarizes for each of the Spanish drills (SD) the mean scores (and standard deviations) achieved by each class (SC 1, SC 2, SC 3, SC 4). The number after the treatment (A, B, C, D) indicates the actual number of pupils taking part in the experiment. The identification S and NS in the right-hand column indicates whether the differences in the means were significant at the 0.05 level.

Classes

Drill	SC_1	SC_2	SC_3	SC_4	Significance
SD_1	A(27)78.85(18.62)	B(23)64.35(22.92)	C(28)74.85(20.96)	D(27)77.78(20.96)	S
SD_2	B(28)84.07(20.42)	A(30)84.16(13.42)	D(28)77.23(29.38)	C(24)78.47(26.57)	NS
SD_3	C(20)56.55(30.54)	D(26)34.77(37.36)	A(27)50.15(27.00)	B(28)46.88(30.34)	S
SD_4	D(23)56.52(30.56)	C(27)47.68(31.35)	B(23)50.90(30.46)	A(21)46.02(32.09)	NS
SD_5	A(24)56.94(26.11)	B(26)43.27(30.82)	C(21)53.37(21.87)	D(25)34.83(25.28)	S
SD_6	B(27)72.77(16.56)	A(21)58.50(25.56)	D(20)65.71(12.02)	C(22)69.69(24.17)	S

Treatment ranks and class ranks (before adjustments for language aptitude) were, therefore, the following:

	Treatment Rank				Class Rank				Significance
Drill	1	2	3	4	1	2	3	4	
SD_1	A	D	C	B	SC_1	SC_4	SC_3	SC_2	S
SD_2	A	B	C	D	SC_2	SC_1	SC_4	SC_3	NS
SD_3	C	A	B	D	SC_1	SC_3	SC_4	SC_2	S
SD_4	D	B	C	A	SC_1	SC_3	SC_2	SC_4	NS
SD_5	A	C	B	D	SC_1	SC_3	SC_2	SC_4	S
SD_6	B	C	D	A	SC_1	SC_4	SC_3	SC_2	S

Thus the 4 treatments obtained the following ranks (number of significant classranks in parenthesis)

Treatment	1	2	3	4
A	3(2)	1(1)	0(0)	2(1)
B	1(1)	2(1)	2(2)	1(1)
C	1(1)	2(2)	3(1)	0(0)
D	1(0)	1(0)	1(1)	3(2)

The ranking of the 4 classes is summarized in the table below:

Class				
SC_1	5(4)	1(0)	----	0
SC_2	1(0)	0(0)	2(1)	3(3)
SC_3	0(0)	3(2)	2(2)	1(0)
SC_4	0(0)	2(2)	2(1)	2(1)

Since class ranks seemed quite important (SC_1 was obviously the best of the classes), it was decided to rescore the Spanish criterion tests from the point of view of considering in each drill only one important criterion measure related directly to the experiment. It was hoped that this kind of scoring would minimize influence of previous learning not related to the experiment. For each of the drills, the following table contains the criterion measure used and the percentage of students in each class who achieved criterion on the drill.

	SC_1	SC_2	SC_3	SC_4
SD_1 (correct use of indirect object pronoun with <u>gustar</u>)	55%	40%	47%	52%
SD_2 (correct use of indirect object pronoun with <u>faltar</u>)	83%	90%	75%	80%
SD_3 (correct translation of <u>this</u>, <u>that</u>, <u>that over there</u> by <u>ese</u>, <u>este</u>, <u>aquel</u> in first 3 sentences of test)	35%	12%	14%	18%
SD_4 (correct object pronoun used in all of first 4 sentences of test)	23%	19%	17%	29%
SD_5 (correct reflexive pronoun used in first 4 sentences)	38%	19%	24%	12%
SD_6 (<u>conocer</u>, <u>saber</u>, correctly used in first 4 sentences)	56%	14%	30%	50%

According to this method the scoring of classes and treatments were distributed as follows:

	Treatment Rank				Class Rank			
	1	2	3	4	1	2	3	4
SD_1	A	D	C	B	SC_1	SC_4	SC_3	SC_2
SD_2	A	B	C	D	SC_2	SC_4	SC_4	SC_3
SD_3	C	B	A	D	SC_1	SC_4	SC_3	SC_2
SD_4	D	A	C	D	SC_1	SC_4	SC_2	SC_3
SD_5	A	C	B	D	SC_1	SC_3	SC_2	SC_4
SD_6	B	C	D	A	SC_1	SC_4	SC_3	SC_2

Treatment and class ranks can then be summarized as follows:

	Class ranks					Treatments			
	1	2	3	4		1	2	3	4
SC_1	5	1	-	-	A	3	1	1	1
SC_2	1	-	2	3	B	1	2	1	2
SC_3	-	1	3	2	C	1	2	1	2
SC_4	-	4	1	1	D	1	1	1	3

As can be seen, the scoring method according to a single experiment connected criterion did not change any of the results in any significant way. As will be seen by comparing with previous summary of rankings, the distribution of ranks for class and for individual experiments remained practically identical.

When Modern Language Aptitude scores were taken into consideration it was found that there were only small aptitude differences between the classes. The averages for the classes were the following:

Class	Sample	MLAT Mean	Standard Error of Mean	Standard Dev.	Maximum	Minimum	Range
SC_1	30	90.20	4.49	24.63	148	49	99
SC_2	30	88.09	8.11	23.48	148	46	102
SC_3	27	87.81	3.39	17.61	115	43	72
SC_4	28	89.77	4.22	21.96	147	43	104

For most of the treatments a significant relation existed however, between achievement and language aptitude. The table below summarizes the correlations between individual language aptitude and test scores (In interpreting the table, the reader should keep in mind that .40 correlation is significant at the 0.05 level for n = 18).

Drill	SC_1	SC_2	SC_3	SC_4
SD_1	.56(A)	.16(B)	.51(C)	.36(D)
SD_2	.44(B)	.42(A)	.60(D)	.20(C)
SD_3	.54(C)	.38(D)	.43(A)	.62(B)
SD_4	.42(D)	.45(C)	.58(B)	.18(A)
SD_5	.47(A)	.-00(B)	.58(C)	.51(D)
SD_6	.37(B)	-.17(A)	.24(D)	.58(C)

When Modern Language aptitude was considered in the ranking and taken into consideration as a covariate[1], significance levels collapsed for the rankings of the results of all the drills with exception of SD_1

[1] See N. M. Downie and R. W. Heath: Basic Statistical Methods, 1959, p. 186.

for which rankings remained significant at the .05 level. However, the relative rank themselves were very likely affected by removing the aptitude factor. Treatment ranks and class rank for the various drills were then as follows:

	Treatment Rank				Class Rank			
Drill	1	2	3	4	1	2	3	4
SD_1	A	C	D	B	SC_1	SC_3	SC_4	SC_2
SD_2	A	B	C	D	SC_2	SC_1	SC_4	SC_3
SD_3	C	A	B	D	SC_1	SC_3	SC_4	SC_2
SD_4	D	C	B	A	SC_1	SC_2	SC_3	SC_4
SD_5	A	C	B	D	SC_1	SC_3	SC_2	SC_4
SD_6	B	C	D	A	SC_1	SC_4	SC_3	SC_2

Thus the treatments obtained the following ranks:

	1	2	3	4
Treatment A	3	1	0	2
Treatment B	1	1	3	1
Treatment C	1	4	1	0
Treatment D	1	0	2	3

The ranking of the four classes is summarized in the table below:

Class	1	2	3	4
SC_1	5	1	0	0
SC_2	1	1	1	3
SC_3	0	3	2	1
SC_4	0	1	3	2

By assigning a 4, 3, 2, or 1 point value to each 1st, 2nd, 3rd and 4th rank we can express a rough comparison of the ranking of the treatments: A(17), C(16), B(14), D(13). If we rank the classes on the same basis we obtain a rank order of SC_1(24), SC_3(14), SC_2(12), SC_4(11).

The ranking made it quite obvious that the most significant and obvious difference exists between classes and not between treatments. SC_1 is the obvious winner with five first places and one second place. SC_1 remains in first rank even after aptitudes are taken into consideration. Obviously the rank obtained by class SC_1 could be due to the fact that it was taught differently from the other classes. Although the treatments of classes were equal and the role of the explation was the only independent variable in the treatment, learning prior to the treatment could very well have played a role. In spite of the specific focus on one specific problem on the treatments as well as the drill, the sequential nature of language learning made it, of course, impossible to eliminate influence of previous learning altogether. Yet, in connection with this suspicion, it must be pointed out that classes SC_1, SC_3 and SC_4 were in fact taught by the same teacher. The uncontrolled variable which emerges from this consideration as the possible main souce for the ranking of the classes is--the time of the day at which the class is scheduled. Even with the same teacher, identical treatments and due allowance for language aptitude differences SC_1 scheduled for early morning (first period) leads SC_3 and SC_4--scheduled after lunch for periods six and seven!

As far as the rankings of the treatment are concerned, it is more difficult to come to a definite conclusion.While A wins 3 times out of 6,

2 of the 3 wins are scored by SC_1--which even scores a win with treatment D in SD_4. When used in SC_4 and SC_2, treatment A places last in drills SD_4 and SD_6. Yet it can make a strong claim to efficiency by helping the rather "weak" SC_2 to score a victory in SD_2--where it accounts for the only instance in which SC_1 does not capture first place. Further, treatment A remains also the winner for SD_1 at an .05 significance level even after adjustment for aptitude differences.

B. French Experiment

The drills performed in the 4 French classes furnished results which in many ways showed the same pattern as those evidenced in the Spanish experiment. The following table summarizes the result of the French drills. The table corresponds to the one used to show the raw scores of the Spanish drills: Again the number after the treatments (A, B, C, D) indicates the number of pupils involved in the experiments. Standard deviations are given in parentheses after the mean scores.

	Classes				
	FC_1	FC_2	FC_3	FC_4	Signi-ficance
FD_1	D(21)2.57(3.32)	A(22)3.68(4.43)	B(26)3.61(4.56)	C(30)2.47(3.49)	NS
FD_2	C(19)6.26(5.20)	D(21)8.61(4.99)	A(21)10.80(5.27)	B(28)8.35(6.05)	S
FD_3	A(18)5.22(4.29)	D(20)5.80(4.12)	C(25)6.80(5.59)	B(27)3.67(4.05)	S
FD_4	B(19)8.79(4.39)	C(20)4.85(4.36)	D(24)8.79(5.07)	A(24)7.33(5.17)	S
FD_5	D(18)8.05(5.49)	A(18)10.11(3.89)	B(22)10.77(5.20)	C(23)8.08(5.85)	NS
FD_6	B(20)7.95(4.29)	C(15)7.13(2.85)	A(22)8.09(4.26)	D(25)7.52(3.68)	NS

Treatments rank and class ranks (before adjustment for language aptitude) were thus the following:

Drill	Treatment Ranks				Class Ranks				Significance
	1	2	3	4	1	2	3	4	
FD_1	A	B	D	C	FC_2	FC_3	FC_1	FC_4	NS
FD_2	A	D	B	C	FC_3	FC_2	FC_4	FC_1	S
FD_3	C	D	A	B	FC_3	FC_2	FC_1	FC_4	S
FD_4	D	B	A	C	FC_3	FC_1	FC_4	FC_2	S
FD_5	B	A	C	D	FC_3	FC_2	FC_4	FC_1	NS
FD_6	A	B	D	C	FC_3	FC_1	FC_2	FC_4	NS

Thus the 4 treatments obtained the following ranks (number of significant class ranks in parenthesis)

Treatment	1st	2nd	3rd	4th
A	3(1)	1(0)	2(2)	0(0)
B	1(0)	3(1)	1(1)	1(1)
C	1(1)	0(0)	1(0)	4(2)
D	1(1)	2(2)	2(0)	1(0)

The ranking of the 4 classes is summarized as follows:

Class	1	2	3	4
FC_1	0(0)	2(1)	2(1)	2(1)
FC_2	1(0)	3(2)	0(0)	2(2)
FC_3	5(3)	1(0)	0(0)	0(0)
FC_4	0(0)	0(0)	4(2)	2(1)

A consideration of language aptitude showed that there were significant differences in aptitude between the 4 French classes. The averages for the 4 classes were the following:

Class	Sample	MLAT Mean	Standard Error of Mean	Standard Deviation	Maximum	Minimum	Range
FC_1	21	84.33	4.83	22.17	114	41	73
FC_2	23	98.00	4.57	21.93	161	53	108
FC_3	27	101.07	4.31	22.44	160	68	92
FC_4	30	89.03	4.81	26.35	134	22	112

In other words, FC_3--the clear winner with 5 out of 6 first place rankings --was also the highest aptitude class. In order to assess the importance of aptitude, and to covariate the aptitude factor out of the rankings, correlations between individual aptitude scores and individual test scores were established. They are presented in the table below:

Class and Treatment

Drill	FC_1	FC_2	FC_3	FC_4
FD_1	.26(A)	.54(A)	.02(B)	.49(C)
FD_2	.05(C)	.50(D)	.71(A)	.75(B)
FD_3	.40(A)	.52(D)	.77(C)	.55(B)
FD_4	.52(B)	.40(C)	.77(D)	.44(A)
FD_5	.56(D)	.31(A)	.74(B)	.55(C)
FD_6	.21(B)	.35(C)	.67(A)	.34(D)

When language aptitude was covariated out of the rankings, significance levels of all rankings with the exception of those for FD_4 collapsed again. In addition, treatment ranks as well as class ranks changed considerably. Class ranks and treatment ranks after accounting for aptitude differences are summarized as follows:

	Treatment Rank				Class Rank			
Drill	1	2	3	4	1	2	3	4
FD_1	D	A	B	C	FC_1	FC_2	FC_3	FC_4
FD_2	A	B	D	C	FC_3	FC_4	FC_2	FC_1
FD_3	A	D	C	D	FC_1	FC_2	FC_3	FC_4
FD_4	B	D	A	C	FC_1	FC_3	FC_4	FC_2
FD_5	A	D	B	C	FC_2	FC_1	FC_3	FC_4
FD_6	B	D	A	C	FC_1	FC_4	FC_3	FC_2

Thus the four treatments obtained the following ranks:

	1	2	3	4
A	3	1	2	0
B	2	1	2	1
C	0	0	1	5
D	1	4	1	0

The four classes now ranked as follows:

	1	2	3	4
FC_1	4	1	0	1
FC_2	1	1	1	3
FC_3	1	1	4	0
FC_4	0	2	1	3

By assigning again 4, 3, 2 and 1 point values to each rank from 1 to 4 we can again describe the relative ranking of classes and treatments. Treatments rank: A(19), D(18), B(16), C(7). Classes rank quite clearly in the order: FC_1(20), FC_3(15), FC_2(12), FC_4(11).

Again it seems that the important ranking affects classes rather than treatments. FC_3 which was the obvious winner (5 first places, 1 second) as long as language aptitude differences were not considered, now falls back to second place and FC_1 assumes first place. What is of interest to note in connection with these rankings is that in the French experiment only two classes, namely FC_1 and FC_3 were taught by the same teacher. After accounting for aptitude differences, the first period class wins again against the later (5th) period class taught by the same teacher (and against fourth and sixth period classes taught by others).

As far as the treatment ranks are concerned, treatment A is again--this time somewhat more convincingly--in the lead. It does not occupy a single last place--and wins again 3 out of 6 first places. However, the French experiment only 1 of these wins, is scored by the highest scoring class FC_1 (in FD_3). The two others, in FD_2 and FD_5, are scored by FC_3 and FC_2. The major differences between the French and Spanish experiments as far as rank order of treatment is concerned lies in the reversal of the positions of treatments C and D. While in the Spanish experiments C seemed ahead of D, treatment D seems now more effective with 4 second places, while C takes last place 5 out of 6 times.

If we take a look at combined treatment ranks for both experiments, we get some evidence that prolonged withholding of explanation (or complete absence) seems at least a fairly doubtful procedure. In the 12 individual experiments, treatments A and B (early explanation) capture 9 out of 12 first places and occupy the last place only 4 times. Treatments C and D on the other hand place first only 3 times and are found 8 times in the last rank.

4. Summary and Recommendation

In conclusion we can point out that the independent variable under investigation--place of or absence of explanation--does perhaps not have the importance attributed to it in some of the current pedagogical discussion. That class differences (even with classes taught by the same teacher!) turned out to be more significant than treatment differences is an indication that in the actual practical teaching situation the Foreign language teacher should indeed pay a great deal of attention to such variables as the time of meeting of the class, the degree of eagerness or tiredness of the student at certain times of the day, etc. As many Foreign Language teachers have no doubt suspected for some time, such variables may, in the long run, make at least as much of a difference as some of the refinements of teaching methodology.

The general patterning of rankings of treatments does allow the conclusion, however, that an early introduction of the explanation seems to be a more effective treatment than its postponement or omission. Not only did treatments A and B capture nine out of 12 first places. They also were the winners in the only two experiments (SD_1, FD_4) in which significance levels remained after adjustment for language aptitude. In the actual classroom situation it may be neither possible nor advisable to introduce an explanation <u>before</u> a grammatical structure is introduced. Such a procedure was possible in an experiment--which was interpreted as such by the students who thus felt no need that the structure to be learned in the experiment should be "motivated" or related to previous learning. In actual classroom practice, it would undoubtedly be preferable to show the application and relevance of the new material in some

sort of context before explaining it.

One of the most obvious disadvantages of the experiments reported herewith lies in the fact that criterion tests had to be administered immediately after the learning. In actual practice, retention of the material learned is of couse a more valid criterion than immediate results. Unfortunately it was impossible to use measures of retention in the experimental situation. The material--once introduced--became the object of various and uncontrolled and uncontrollable teaching and learning situations. The justification for basing some conclusion on the immediate follow-up criterion test rests on the assumption that the procedure which gives best results in the initial learning, is the one that should be used in precisely the initial learning situation. It seems that in foreign language learning the ultimate retention of the material learned is influenced primarily by the follow-up practice built into the course. Yet effective initial learning should facilitate such follow-up practice no matter what form the latter may take.

*** APPENDIX ***

An experiment in the presentation of parallel and contrasting structures.

In foreign language pedagogy it is generally assumed that constructions which parallel those found in the native language are easy to learn while those that contrast with native constructions are difficult. Some language teachers also feel that the study of a foreign language should be approached first through parallel constructions whenever possible, others are convinced that contrasting constructions should be introduced first. The approach through parallel construction is based

primarily on the contention that initial easy learning will give the student satisfaction and self confidence. The "contrasting construction first" argument emphasizes that interference and confusion resulting from the pupils native language habits can, in fact, be aggravated by using parallel constructions first.

The reasoning behind the initial attack on contrastive construction is as follows: The pupil possesses a native language pattern, e.g., Subject + Verb + Pronoun Object (I see him). In the foreign language he may have to acquire a contrasting different pattern, e.g., Subject + Pronoun Object + Verb (French je le vois). A parallel pattern also exists in the Foreign language, e.g., Verb + Pronoun Object (English give me, French donne-moi). If the student acquires the contrasting pattern (French Pronoun Object + Verb) first, he is learning a clear-cut contrast between the foreign and the native language. There will be only one factor at work which will mislead the student (namely the native language pattern). However, if the student learns the parallel foreign language construction first (e.g., French donne-moi = English give me) the clear-cut contrast between the foreign and native language is obscured. By the time the student approaches the difficult contrasting pattern, two factors will be misleading the student: the pattern of his native language and the parallel foreign language construction.

In order to arrive at some conclusions concerning the relative difficulty of parallel and contrasting pattern and the "contrasting vs. parallel pattern first" argument, a series of experiments were set up in which the sequence of presentation of parallel vs. contrasting construction was the variable under investigation. The organization of the

experiment made it, of course, impossible to eliminate recency effects. The treatment CP (Contrasting before parallel structure) can claim the psychological advantage of introducing the more difficult contrasting structure before the additional factor of confusion (the parallel structure) is introduced. At the same time, however, the recency effect is clearly working against treatment CP. The new difficult contrasting structure is introduced less recently than the easier parallel one. In other words, the experiment could only prove whether initial introduction of C (contrasting structure) was, in fact, a factor powerful enough to overcome the disadvantage of the recency effect. Also another factor which might favor the sequence CP in actual classroom practice was not present in the experiment: namely additional practice in the more difficult contrasting structure in order to "fortify" the student against the possible confusion arising from the introduction of a parallel structure in the foreign language.

The same classes utilized in the main experiment, were also used in this experiment; in other words, 4 First Year classes of Spanish (SC_1, SC_2, SC_3, SC_4) and 4 First Year classes of French (FC_1, FC_2, FC_3, FC_4) took part in the experiments. All in all 5 experiments (3 in French and 2 in Spanish) were conducted. In each experiment the only variable in the treatment consisted in the sequence of the presentation of the structure. In one treatment the parallel structure was presented first and the contrasting structure in the following lesson (Treatment PC), in the other treatment the order of presentation was reversed (Treatment CP).

The following grammatical problems were dealt with in the 5 experiments. All classes taking part in the experiments followed the ALM

materials during the year in which the experiment took place. The experimental treatments were administered during the school year at a point at which the classes seemed ready for the experiment but had not yet had any contact with the grammatical problem during their regular classroom learning.

French problem 1 (FP_1 after ALM unit 3): Negative and affirmative command, with pronoun objects.

Parallel structure: Donne-moi le livre! Give me the book!

Contrasting structure: Ne me donne pas le livre!

Don't give me the book!

French problem 2 (FP_2 after ALM unit 4): Possessive Adjectives

In the case of French possessive adjectives there is minimum contrast between *French and English* in the third person plural. Except for the forms used before plural nouns beginning with vowels, there is only one French form corresponding to the one form of English.

their book, their books, their pen, their pens

leur livre, leurs livres, leur plume, leurs plumes

With first and second person plural forms, the simple correspondence between English and French is broken since 2 French forms correspond to the simple English your and our.

our (your) book, our (your) books, our (your) pen, our (your) pens

notre (votre) livre, nos (vos) livres, notre (votre) plume,

nos (vos) plumes

In the first and second person singular the correspondence between English and French becomes even more complicated because the masculine/ feminine contrast in the French possessive is introduced:

my (your) book, my (your) books, my (your) pen, my (your) pens

mon (ton) livre, mes (tes) livres, ma (ta) plume, mes (tes) plumes

Maximal contrast between French and English exists in the third person singular since English distinguishes his vs. her according to the sex of the possessor while French distinguishes masculine vs. feminine according to the grammatical gender of the noun modified by the possessive:

his book, his books, his pen, his pens

her book, her books, her pen, her pens

son livre, ses livres, sa plume, ses plumes

In FP_2 the parallel structure presentation thus anticipated the third person plural, while the contrasting structure presentation started with the third person singular.

Parallel structure: leur--votre (vos)--notre (nos);

Contrasting structure: son, sa, ses--ton, ta, tes--mon, ma, mes

FP_3 (after ALM unit 11): Formation of the compound past

Parallel structure: J'ai donné--I have given

Contrasting structure: Je suis entré--I have entered

Spanish problem 1 (SP_1 after ALM unit 5): Querer with infinitive and dependent clause

Parallel structure: Quiero hablar--I want to speak

Contrasting structure: Quiero que hable--I want him to speak

SP_2 (after ALM unit 5): Negative and affirmative command with Pronoun Objects

Parallel structure: Contéstalo--Answer it!

Contrasting structure: No lo contestes--Don't answer it!

To familiarize the reader with the material, all the drills of FP_2 and the post-test used for this particular experiment are herewith presented. (The drills used for the other French and Spanish problems can be made available by the principal investigator upon request). In all the experiments dealing with parallel vs. contrasting structure sequence, explanations were given in first place before the drills. In the French experiments, students were provided with mimeographed sheets showing the materials referred to in the explanation. Explanations were recorded on the same tapes that also contained the pattern drills which had been recorded by a native speaker of French (Spanish).

FP_2--Non-Cognate structure

(Explanation)

Look at the list of possessive adjectives. The possessive adjectives for the third person singular are son, sa, and ses. These adjectives do not distinguish between his and her. Son frère means his brother, or her brother, and sa soeur may mean his sister as well as her sister. In other words, son, sa, and ses are used according to the gender and number of the word which follows them.

Let us take singular nouns which begin with a consonant sound. If they are masculine, son is used, as in son livre, son frère. If they are feminine, sa is used, as in sa montre, sa soeur. But if the noun begins with a vowel sound, then the form s-o-n, pronounced [son] must be used, regardless of the gender of the noun: son oncle, masculine, son auto, feminine.

The form s-e-s is used before the plural noun, regardless of its gender. The form s-e-s is pronounced [se] if the next word begins with

a consonant, as in ses livres, ses montres, ses frères, ses soeurs. It is pronounced [sez] if the next word begins with a vowel, as in ses oncles, ses oncles, ses arbres, ses autos, ses oranges.

The possessive adjectives for the second person singular are ton, ta, tes, and for the first person singular are mon, ma, mes. These forms are used exactly like son, sa, ses. Listen to the following, and remember that son, sa, ses mean both his and her in English:

Son frère, sa soeur, ses frères, ses soeurs.

ton frère, ta soeur, tes frères, tes soeurs.

mon frère, ma soeur, mes frères, mes soeurs.

son oncle, son orange, ses oncles, ses oranges.

ton oncle, ton orange, tes oncles, tes oranges.

mon oncle, mon orange, mes oncles, mes oranges.

REPETITION DRILLS: REPEAT ONLY THE FRENCH SENTENCES.

Drill One

He loves his brother, sister and parents. Il aime son frère, sa soeur et ses parents. Repeat.

She loves her brother, sister, and parents. Elle aime son frère, sa soeur et ses parents. Repeat.

You love your brother, sister and parents. Tu aimes ton frère, ta soeur et tes parents. Repeat.

I love my brother, sister, and parents. J'aime mon frère, ma soeur et mes parents. Repeat.

His father and mother are looking for his money. Son père et sa mère cherchent son argent. Repeat.

Your father and mother are looking for your money. Ton père et ta mère cherchent ton argent. Repeat.

My father and mother are looking for my money. Mon père et ma mère cherchent mon argent. Repeat.

Drill Two

Where is my uncle? Your uncle is in my car. Où est mon oncle? Ton oncle est dans mon auto. Repeat.

Where is your uncle? My uncle is in your car. Où est ton oncle? Mon oncle est dans ton auto. Repeat.

Where is his uncle? His uncle is in his car. Où est son oncle? Son oncle est dans son auto. Repeat.

Where is her uncle? Her uncle is in my car. Où est son oncle? Son oncle est dans mon auto. Repeat.

SUBSTITUTION DRILLS: REPEAT THE BASIC SENTENCE WHICH BEGINS EACH DRILL, AND SUPPLY THE CORRECT POSSESSIVE ADJECTIVES IN YOUR SENTENCES.

Drill One

Où est son père? Repeat.

cahier Repeat.

Où est son cahier? Repeat.

livre Repeat.

Où est son livre? Repeat.

frère Repeat.

Où est son frère? Repeat.

journal Repeat.

Où est son journal? Repeat.

gâteau Repeat.

Où est son gâteau ? Repeat.

Drill Two

Voilà sa mère. Repeat.

table Repeat.

Voilà sa table. Repeat.

soeur Repeat.

Voilà sa soeur. Repeat.

classe Repeat.

Voilà sa classe. Repeat.

saucisse Repeat.

Voilà sa saucisse. Repeat.

fenêtre Repeat.

Voilà sa fenêtre. Repeat.

Drill Three

Jean cherche son oncle. Repeat.

argent Repeat.

Jean cherche son argent. Repeat.

ami Repeat.

Jean cherche son ami. Repeat.

auto Repeat.

Jean cherche son auto. Repeat.

orange Repeat.

Jean cherche son orange. Repeat.

oncle Repeat.

Jean cherche son oncle. Repeat.

Drill Four

Il aime son frère. Repeat.

soeur Repeat.

Il aime sa soeur. Repeat.

oncle Repeat.

Il aime son uncle. Repeat.

disque Repeat.

Il aime son disque. Repeat.

auto Repeat.

Il aime son auto. Repeat.

livre Repeat

Il aime son livre. Repeat.

classe Repeat.

Il aime sa classe. Repeat.

Drill Five

Janine demande ses oranges. Repeat.

livres Repeat.

Janine demande ses livres. Repeat.

cahiers Repeat.

Janine demande ses cahiers. Repeat.

saucisses Repeat.

Janine demande ses saucisses. Repeat.

disques Repeat.

Janine demande ses disques. Repeat.

amis Repeat.

Janine demande ses amis. Repeat.

parents Repeat.

Janine demande ses parents.

frères Repeat.

Janine demande ses frères. Repeat.

TRANSFORMATION DRILLS: PUT EACH NOUN INTO THE SINGULAR.

Drill One

Voilà ses oncle.	Voilà ses livres.
Voilà son oncle.	Voilà son livre.
Voilà ses frères.	Voilà ses oranges.
Voilà son frère.	Voilà son orange.
Voilà ses amis.	Voilà ses disques.
Voilà son ami.	Voilà son disque.
Voilà ses soeurs.	Voilà ses cahiers et ses livres.
Voilà sa soeur.	Voilà son cahiers et son livre.

Drill Two: Answer each question according to the following model.

Ou est ton pere? Voilà mon pere.

Où est ta mère?	Où sont tes amis?
Voilà ma mère.	Voilà mes amis.
Où est ta soeur?	Où est ton ami?
Voilà ma soeur.	Voilà mon ami.
Où sont tes parents?	Où est ton auto?
Voilà mes parents.	Voilà mon auto.
Où est ton oncle?	Où sont ta table et ton cahier?
Voilà mon oncle.	Voilà ma table et mon cahier.

Drill Three: Answer each question affirmatively.

Tu écoutes mon disque?	Tu cherches ton ami?
Oui, j'écoute ton disque.	Oui, je cherche mon ami.
Tu aimes mes parents?	Tu cherches mon ami?
Oui, j'aime tes parents.	Oui, je cherche ton ami.
Tu regardes ma fenêtre?	Tu aimes ton frère?
Oui, je regarde ta fenêtre.	Oui, j'aime mon frère.
Tu joues avec mon frère?	Tu aimes mon frère et ma soeur?
Oui, je joue avec ton frère.	Oui, j'aime ton frère et ta soeur.

Drill Four: Answer each question negatively.

Tu écoutes mon disque?	Tu demandes son argent?
Non, je n'écoute pas ton disque.	Non, je ne demande pas son argent.
Tu aimes mon ami?	Tu regardes son auto?
Non, je n'aime pas ton ami.	Non, je ne regarde pas son auto.
Tu cherches ton ami?	Tu joues avec ma soeur?
Non, je ne cherche pas mon ami.	Non, je ne joue pas avec ta soeur.
Tu demandes mon argent?	Tu aimes mon livre?
Non, je ne demande pas ton argent.	Non, je n'aime pas ton livre.

TRANSLATION DRILLS

Drill One

Where is my brother?	Where is your brother?
Où est mon frère?	Où est ton frère?
Where is my sister?	Where is your mother?
Où est ma soeur?	Où est ta mère?
Where is his sister?	Where are your friends?

Où est sa soeur?

Where is her sister?

Où est sa soeur?

Où sont tes amis?

Where are his brother and sister?

Où sont son frère et sa soeur?

Drill Two

I like your records.

J'aime tes disques.

I listen to your records.

J'écoute tes disques.

He listens to his records.

Il écoute ses disques.

She is looking for her records.

Elle cherche ses disques.

I am looking for my records.

Je cherche mes disques.

He likes his records.

Il aime ses disques.

He likes my books.

Il aime mes livres.

He likes my records and my books.

Il aime mes disques et mes livres.

Cognate Structure

(Explanation)

Look at the list of possessive adjectives. The possessive adjectives for the third person plural are leur, l-e-u-r, and leurs, l-e-u-r-s. Listen to the following words:

leur livre, masculine singular

leurs livres, masculine plural

leur montre, feminine singular

leurs montres, feminine plural

If the next word begins with a vowel sound, the plural form of the possessive adjective is pronounced [loerz], as in leurs oncles, masculine, and leurs autos, feminine.

The possessive adjectives for the second person plural are votre and vos, and for the first person plural they are notre and nos. The forms v-o-s and n-o-s are pronounced [no, vo] before a word beginning with a consonant, and [noz, voz] if the next word begins with a vowel. Listen to the following words:

masculine singular;

leur frère, votre frère, notre frère

leur oncle, votre oncle, notre oncle

masculine plural;

leurs frères, vos frères, nos frères

leurs oncles, vos oncles, nos oncles

feminine singular;

leur soeur, votre soeur, notre soeur

leur orange, votre orange, notre orange

feminine plural;

leurs soeurs, vos soeurs, nos soeurs

leurs oranges, vos oranges, nos oranges

REPETITION DRILLS: REPEAT ONLY THE FRENCH SENTENCES.

Drill One

They love their brother, sister, and parents.

Ils aiment leur frère, leur soeur et leurs parents. Repeat.

You love your brother, sister, and parents.

Vous aimez votre frère, votre soeur et vos parents. Repeat.

We love our brother, sister, and parents.

Nous aimons notre frère, notre soeur et nos parents. Repeat.

Their father and mother are looking for their money.

Leur père et leur mère cherchent leur argent. Repeat.

Your father and mother are looking for your money.

Votre père et votre mère cherchent votre argent. Repeat.

Our father and mother are looking for our money.

Notre père et notre mère cherchent notre argent. Repeat.

Drill Two

Where is our uncle? Your uncle is in our car.

Où est notre oncle? Votre oncle est dans notre auto. Repeat.

Where is your uncle? Our uncle is in your car.

Où est votre oncle? Notre oncle est dans votre auto. Repeat.

Where is their uncle? Their uncle is in their car.

Où est leur oncle? Leur oncle est dans leur auto. Repeat.

SUBSTITUTION DRILLS: REPEAT THE BASIC SENTENCE WHICH BEGINS EACH DRILL, AND SUPPLY THE CORRECT POSSESSIVE ADJECTIVE IN YOUR SENTENCES.

Drill One

Où est leur père? Repeat.

cahier

Où est leur cahier? Repeat

livre

Où est leur livre

frère

Où est leur frère? Repeat.

journal

Où est leur journal? Repeat.

gâteau

Où est leur gâteau?

Drill Two

Voilà leur mère. Repeat.

table

Voilà leur table. Repeat.

soeur

Voilà leur soeur. Repeat.

classe

Voilà leur classe. Repeat.

saucisse

Voilà leur saucisse. Repeat.

fenêtre

Voilà leur fenêtre. Repeat

Drill Three

Paul et Jean cherchent leur oncle.

Repeat.

argent

Paul et Jean cherchent leur argent.

Repeat.

ami

Paul et Jean cherchent leur ami.

Repeat.

auto

Paul et Jean cherchent leur auto.

Repeat.

argent

Paul et Jean cherchent leur argent.

Repeat.

oncle

Paul et Jean cherchent leur oncle.

Repeat.

Drill Four

Ils aiment leur frère. Repeat.

soeur

Ils aiment leur soeur. Repeat.

oncle

Ils aiment leur oncle. Repeat.

disque

Ils aiment leur disque. Repeat.

auto

Ils aiment leur auto. Repeat.

livre.

Ils aiment leur livre. Repeat.

classe

Ils aiment leur classe. Repeat.

Drill Five

Jean et Marie demandent leurs oranges. Repeat.

livre

Jean et Marie demandent leurs livres. Repeat.

cahiers

Jean et Marie demandent leurs cahiers. Repeat.

saucisses

Jean et Marie demandent leurs saucisses. Repeat.

disques

Jean et Marie demandent leurs disques. Repeat.

amis

Jean et Marie demandent leurs amis. Repeat.

parents

Jean et Marie demandent leurs parents. Repeat.

frères

Jean et Marie demandent leurs frères. Repeat.

TRANSFORMATION DRILLS: PUT EACH NOUN INTO THE SINGULAR

Drill One

Voilà leurs oncles.	Voilà leur oncle.
Voilà leurs frères.	Voilà leur frère.
Voilà leurs amis.	Voilà leur ami.
Voilà leurs soeurs.	Voilà leur soeur.
Voilà leurs livres.	Voilà leur livre.
Voilà leurs oranges.	Voilà leur orange.
Voilà leurs disques.	Voilà leur disque.
Voilà leurs tables et leurs arbres.	Voilà leur table et leur arbre.

Drill Two: Answer each question according to the following model:

Où est votre père? Voilà notre père.

Où est votre mère?	Voilà notre mère.
Où est votre soeur?	Voilà notre soeur.
Où sont vos parents?	Voilà nos parents.
Où est votre oncle?	Voilà notre oncle.
Où sont vos amis?	Voilà nos amis.
Où est votre ami?	Voilà notre ami.
Où est votre auto?	Voilà notre auto.
Où sont votre table et votre livre?	Voilà notre table et notre livre.

Drill Three: Answer each question affirmatively.

Vous écoutez notre disque?	Oui, nous écoutons votre disque.
Vous aimez nos parents?	Oui, nous aimons vos parents.
Vous regardez notre fenêtre?	Oui, nous regardons votre fenêtre.
Vous jouez avec notre frère?	Oui, nous jouons avec votre frère.
Vous cherchez votre ami?	Oui, nous cherchons notre ami.
Vous cherchez notre ami?	Oui, nous cherchons votre ami.
Vous aimez votre frère?	Oui, nous aimons notre frère.
Vous aimez notre frère et notre soeur?	Oui, nous aimons votre frère et votre soeur.

POST-TEST: TRANSLATE THE FOLLOWING SENTENCES INTO FRENCH.

1. He loves his brother and sister. (Il aime son frère et sa soeur).
2. Their uncle is in our car. (Leur oncle est dans notre auto).
3. Her brother is near my table. (Son frère est près de ma table).
4. Our parents like his sisters. (Nos parents aiment ses soeurs).

Answer the following four questions affirmatively.

1. Vous écoutez notre disque? (Oui, nous écoutons votre disque).
2. Tu cherches mes parents? (Oui, je cherche tes parents).
3. Tu demandes nos cahiers? (Oui, je demande vos cahiers).
4. Nous regardons ta fenêtre? (Oui, vous regardez ma fenêtre).

Just as in the "Place of explanation experiment," the post-tests were translation or transformation exercises. The French tests were again graded on the basis of deducting one point (per mistake) from a possible total of 16 (8 x 2). The scorer of the Spanish tests used again a point system (1 point for each correct, critical item) established a maximum score of possible correct points (= 100%), and recorded scores on the test as a percentage of the possible maximum. Rescoring of one of the tests by another scorer gave agreements of .85 (FP_1) and 0.91 (SP_1) between scorers. Modern Language Aptitude Tests (MLAT, Carroll-Sapon) had been administered to the classes in conjunction with the "Place of explanation" experiments.

For each of the problems classes were chosen for the two treatments in the following way:

	Class			
Problem	FC_1	FC_2	FC_3	FC_4
FP_1	PC	CP	CP	PC
FP_2	PC	PC	CP	CP
FP_3	PC	PC	CP	CP
	SC_1	SC_2	SC_3	SC_4
SP_1	PC	PC	CP	CP
SP_2	CP	CP	PC	PC

The following table summarizes the scores (means) achieved by each class in each of the experiments (standard deviations are given in parentheses)

	FC_1	FC_2	FC_3	FC_4
FP_1	5.57(3.31)	6.64(3.60)	7.68(4.39)	7.04(5.83)
FP_2	6.84(3.03)	3.13(4.35)	7.90(4.86)	4.00(3.54)
FP_3	8.11(3.28)	8.26(3.36)	9.72(3.61)	8.92(3.83)
	SC_1	SC_2	SC_3	SC_4
SP_1	55.19(17.87)	41.51(23.29)	39.39(18.51)	44.67(17.30)
SP_2	58.50(18.15)	54.66(21.14)	45.53(19.00)	48.83(20.12)

Thus for the 3 French and 2 Spanish problems treatments and classes ranked as follows:

	Classes				Treatment			
	1	2	3	4	1	2	3	4
FP_1	FC_3	FC_4	FC_2	FC_1	CP	PC	CP	PC
FP_2	FC_3	FC_1	FC_4	FC_3	CP	PC	CP	PC
FP_3	FC_3	FC_4	FC_2	FC_1	CP	CP	PC	PC
SP_1	SC_1	SC_4	SC_2	SC_3	PC	CP	PC	PC
SP_2	SC_1	SC_2	SC_4	SC_3	PC	PC	CP	CP

As can be seen from the above distribution classes seem again more important than treatment. While CP wins in all of 3 French experiments, the placement is achieved each time by FC_3. In the 2 Spanish experiments PC wins--but again is the same class SC_1. It will be recalled from the "explanation" experiment, the classes taking part in the experiment were not of equal aptitude. Average Aptitude score for the classes are:

SC_1	90.20	SC_2	88.09	SC_3	87.81	SC_4	89.77
FC_1	84.33	FC_2	98.00	FC_3	101.07	FC_4	89.03

Considering aptitude factors does not affect ranking in Spanish. No significant difference in aptitude exists between the Spanish classes. Among the French classes however, FC_1 is of significantly lower aptitude than the others, while the aptitude of FC_3 is the highest in the group. In other words, the 3 wins of FC_3 can be explained as results of aptitude rather than the treatment.

At any rate, the real facts concerning the experiment become clear only if the results are evaluated according to two clear cut "single criterion" measures. The two criteria used were the following:

1. How many of the students taking part in the experiment did not make a single mistake due to the use of a parallel instead of a contrasting structure?
2. How many of the students did not make a mistake as a result of using a contrasting structure instead of a parallel one?

The following table summarizes the criterion measure used in each experiment and the percentage of students (N in parentheses) which achieved criterion:

1. Correct use of the contrasting structure

Criterion:

FP_1: Which students did not use the sequence Verb + Pronoun Object in a negative command?

FP_2: Which students did not make any mistake in the translation of "his brother," "his brother and sister," "her brother," "his sister."

FP_3: Which students did not use avoir (have) instead of être (be) in the formation of past tenses or verbs requiring être.

SP_1: Which students did use a subordinate clause construction (not an infinitive) after querer whenever required by the Spanish sentence.

SP_2: Which students did not use the sequence Verb + Pronoun Object in a negative command?

	FC_1	FC_2	FC_3	FC_4
FP_1	3%(27)	8%(24)	18%(28)	38%(33)
FP_2	39%(28)	36%(25)	17%(23)	22%(27)
FP_3	57%(23)	44%(75)	33%(21)	7%(27)
	SC_1	SC_2	SC_3	SC_4
SP_1	52%(23)	18%(28)	8%(25)	16%(15)
SP_2	13%(24)	8%(26)	18%(28)	29%(24)

Rank of Classes and Treatments may be summarized as follows:

	Classes							
	1	2	3	4	1	2	3	4
FP_1	FC_4	FC_3	FC_2	FC_1	PC	CP	CP	PC
FP_2	FC_1	FC_2	FC_4	FC_3	PC	PC	CP	CP
FP_3	FC_1	FC_2	FC_3	FC_4	PC	PC	CP	CP
SP_1	SP_1	SP_2	SP_4	SP_3	PC	PC	CP	CP
SP_2	SP_4	SP_2	SP_1	SP_2	PC	PC	CP	CP

In other words PC is the obvious winner with 9 out of 10 possible first and second placements.

2. Correct use of the parallel structure

Criterion:

FP_1: Which students did not ever use the sequence Pronoun Object + Verb in affirmative commands?

FP_2: Which students always translated <u>their</u> and <u>our</u> correctly?

FP_3: Which students never used <u>être</u> instead of <u>avoir</u> in the past tense with verbs requiring <u>avoir</u>?

SP_1: Which students never used <u>querer</u> + <u>que</u> instead of <u>querer</u> + infinitive?

SP_2: Which students did not ever use the sequence Pronoun Object + Verb in affirmative commands?

	FC_1	FC_2	FC_3	FC_4
FP_1	96%(27)	100%(24)	100%(24)	70%(33)
FP_2	3%(20)	12%(25)	35%(23)	22%(27)
FP_3	27%(23)	40%(25)	82%(21)	15%(27)
	SC_1	SC_2	SC_3	SC_4
SP_1	48%(23)	72%(28)	96%(25)	96%(25)
SP_2	100%(24)	100%(26)	93%(28)	88%(24)

Rank of Classes and treatments may be summarized as follows:

	1	2	3	4	1	2	3	4
FP_1	FC_2 , FC_3	---	FC_1	FC_4	CP,CP	---	PC	PC
FP_2	FC_3	FC_4	FC_2	FC_1	CP	CP	PC	PC
FP_3	FC_3	FC_2	FC_1	FC_4	CP	PC	PC	CP
SP_1	SC_3 , SC_4	---	SC_2	SC_4	CP,CP	---	PC	PC
SP_2	SC_1 , SC_2	---	SC_3	SC_4	CP,CP	---	PC	PC

Again the superiority of treatment CP is now quite clear. It captures 9 out of the possible 10 first and second places.

In other words the experiment showed that the students did best according to the recency effect of the treatment: The sequence PC resulted in better achievement with the contrasting structure while the sequence CP favored better results with the parallel structure. The effect of having learned the contrasting structure without previous exposure to the parallel structure was not powerful enough to offset the recency effect which resulted from learning the contrasting structure in second place.

In comparing the result of the different experiments we find no considerable difference in the degree of difficulty of parallel and contrasting structures. It is really only in experiment FP_1 and SP_2 --both concerned with the problem of word order in the usage of pronouns --that the parallel structure seems overwhelmingly easier to learn. In both cases the treatment CP produces perfect scores in the parallel structure and the effect exerted by the contrasting structure on the parallel one by treatment PC is comparatively slight: Scores still remain at 96%, 70%, 93%, 88%. On the other hand, the contrastive structure is overwhelmingly more difficult: (3%, 8%, 10%, 38% for the 4 French classes and 13%, 8%, 18%, 29% for the 4 Spanish classes!). The experiment clearly shows the very powerful force exerted by the word order of the native language.

In FP_2 criterion scores were obtained by surprisingly few students for parallel as well as constrasting structures. This is no doubt due to the fact that the experiment involved is not only a structural problem, but also the learning of the forms of the possessive. The treatment was simply not strong enough to produce a great deal of retention of the forms themselves.

In SP_1 the parallel structure is easier than the contrastive one (48%, 72%, 96%, 96% as opposed to 52%, 18%, 8%, 16%) and treatment CP produces almost perfect scores for the parallel structure. Yet the confusion brought about by the introduction of the contrasting structure is considerable. Since the recency effect of treatment CP brings about scores of 96%, 96% in SC_3 and SC_4 we can assume that also in SC_1 SC_2 scores on the parallel structure alone, obtained after a treatment P would have been perfect or near perfect. The actual scores after treatment PC (namely 48% and 72%) show that even the parallel structure is subject to an extreme amount of confusion and to influence by the contrasting one.

That the real problem encountered by the student may not always be the existence of a contrasting structure but perhaps rather confusion of conflicting structures in the target language is clearly shown by FP_3: The number of students reaching criterion in the correct use of avoir (have) in the formation of the past is not appreciably higher than the one of those who use être (be) correctly. True enough, in the highest aptitude class the recency effect of treatment CP brings the percentage of students using avoir correctly up to 82% (as opposed to 33% using être correctly)--but at the same time the treatment PC in classes FC_1 and FC_2 gives better results for the correct use of être than for correct use of avoir (FC_1: 57% opposed to 27%; FC_2 44% opposed to 40%).

The experiment thus seems to indicate that the question of parallel vs. contrasting construction is of paramount importance in the area of word order. With other types of language learning problem contrasts within the target language rather than contrasts between the native

language and the target language alone are evidently of equal or perhaps even greater importance. Some of the difficulty experienced with a parallel structure as the result of the introduction of a contrastive one is undoubtedly due to a recency effect and "overcompensation." After the introduction of the subjunctive in let us say Spanish or French, the student is tempted to put <u>all</u> sentences into the subjunctive. But, in the long run, the parallel structure, the use of the indicative, is probably easier and presents less difficulty. Still, the view that we are dealing with an easy (= parallel) structure and a difficult (= contrasting) structure seems an oversimplification. The real problem of the student is rather a confusion due to a compulsory choice (e.g., <u>avoir</u> vs. <u>être</u> in the past tense) which, as such, has no parallel in the native language.